ABSTRACT

A SYSTEM FACILITATING EXTENSION AND RETRACTION OPERATIONS FOR AUTONOMOUS DOCKING OF SPACECRAFT

The present disclosure relates to a system (200) for facilitating extension and retraction operations, the system includes a telescopic assembly located at the periphery of a housing (216). The telescopic assembly includes at least three cylindrical hollow tubes (210) spaced equiangularly about the housing (216). Each hollow tube (210) coupled to a ball assembly (226) and is selectively movable between a retracted position and extended position. The ball assembly (226) includes one or more profiled grooves that accommodate spherical balls (234) and a leaf spring (236) coupled to the spherical balls (234) to provide a force such that a ball retainer with the spherical balls is movable between the extreme positions and actuated by a motorized actuator (214) to facilitate retraction and extended position.

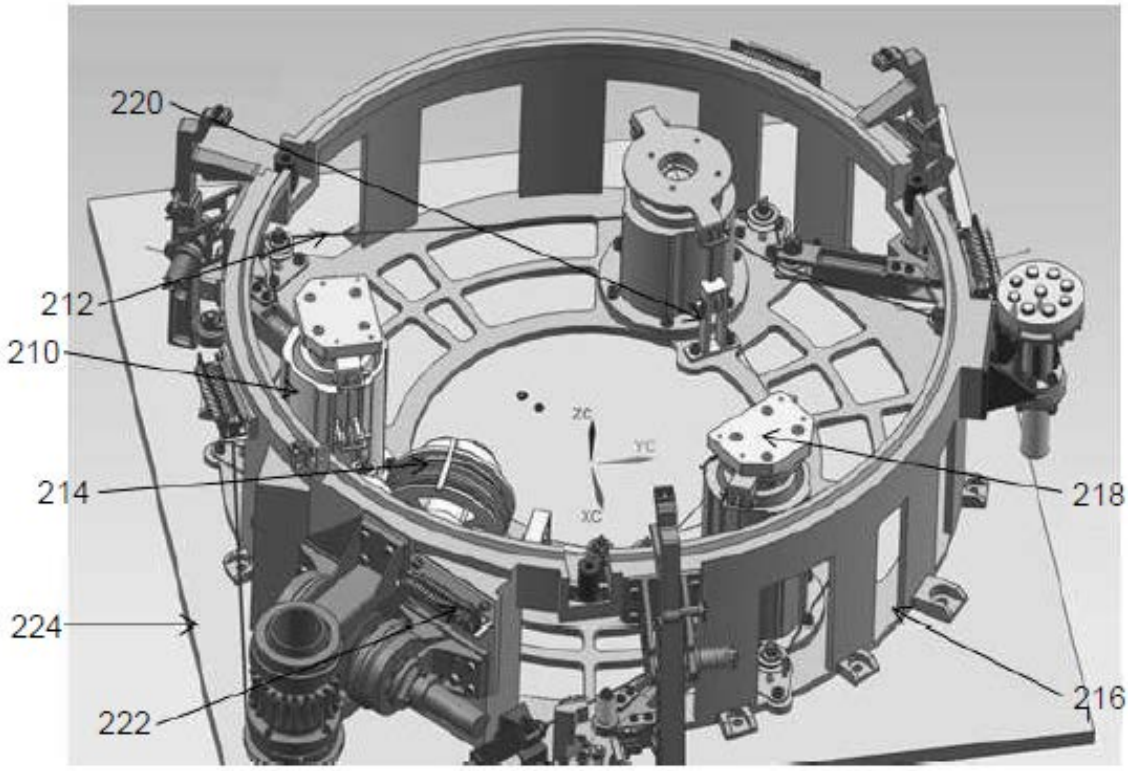

FIG. 2E

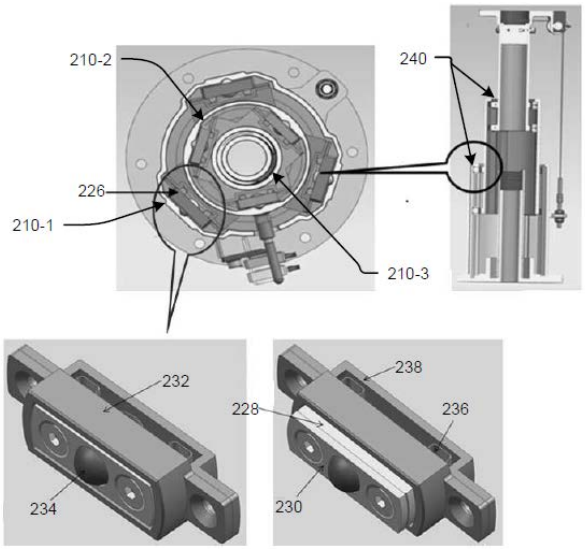

FIG. 2F

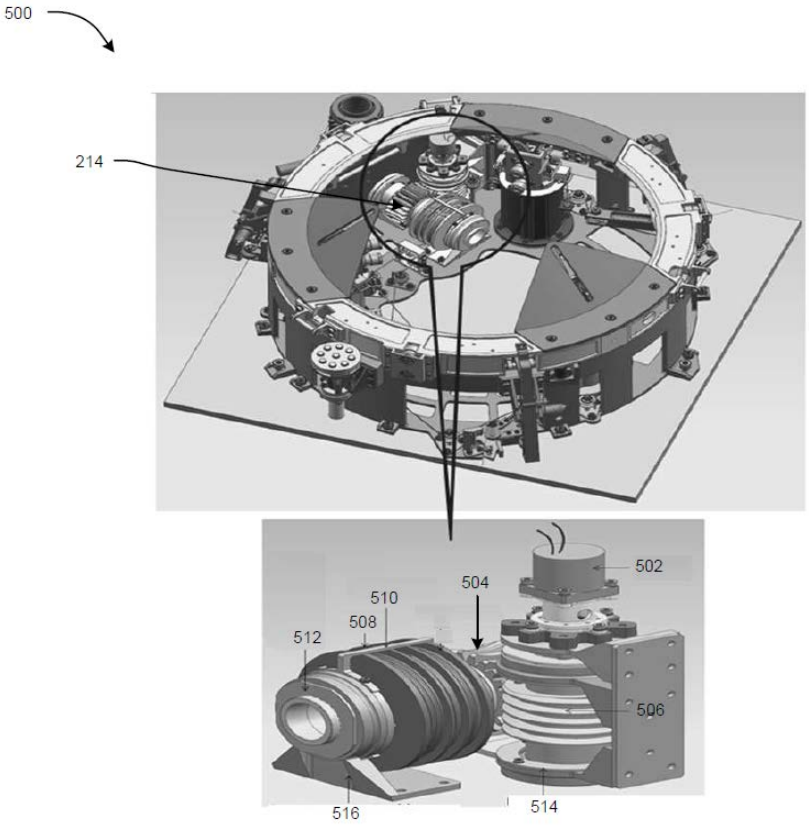

Fig. 5A

FOR Indian Space Research Organisation

Tarun Khurana
Regd. Patent Agent [IN/PA-1325]
Dated: 27th Sep, 2022